

Cascadia Consulting Group

811 First Avenue, Suite 480
Seattle, WA 98104
Phone: 206/343-9759
Fax: 206/343-9819
E-Mail: cascadiacg@aol.com

To: Steve Storelli, CIWMB
Interested Parties

From: Suzie Haberland and Charlie Scott

Date: June 12, 1997

Subject: Denominator Methodology

This memo describes the methodology that will be used to calculate the RPPC recycling rate denominator and recommends a preliminary list of SPI-CRS reporting categories to be used in this calculation.

Please review the following materials and return your comments to Cascadia by June 27. We will incorporate your feedback and suggestions prior to calculating the 1996 denominator.

Methodology

The proposed methodology is based on defining the relationship between national resin sales for a group of resins used in RPPC applications and California generation of RPPCs. Once this relationship is defined, the ratio, which describes the relationship, can be applied to future national resin sales data to estimate California generation of RPPCs. The three data sources needed to describe the relationship between national sales and California generation are:

1. 1995 national resin sales statistics from the SPI Committee on Resin Statistics as compiled by Association Services Group, LLC.
2. 1996 national resin sales statistics from the SPI Committee on Resin Statistics as compiled by Association Services Group, LLC.
3. Total 1995 California generation of RPPCs (final CIWMB staff adjustments to Cascadia/APC data, or 318,300 tons).

The formula which describes the relationship is:

Step 1:

$$\frac{1995 \text{ California generation of RPPCs}}{1995 \text{ national resin sales for a group of resins used in RPPCs}} = x\%$$

Step 2:

$$x\% \times 1996 \text{ national resin sales for a group of resins used in RPPCs} = 1996 \text{ denominator}$$

Note: the national resin sales categories must remain constant from year to year.

As discussed in previous Interested Parties meetings, this methodology is straightforward, but it requires that the national resin sales categories used to represent RPPCs be carefully chosen. The accuracy of the proposed methodology is therefore contingent on selecting a listing of national resin sales categories that best approaches the RPPC definition. The listing can be changed in the future, but if such changes are made, it is necessary to recalculate the ratio using 1995 data. The recalculated ratio derived from the 1995 data could then be applied to the data for the current year in question.

The goal is to establish a listing of SPI-CRS categories that most closely approximates the RPPC definition. In California, RPPCs are defined as plastic containers meeting ALL of the following five criteria:

1. It is made entirely of plastic;
2. It is a packaging container in which a product is sold;
3. It is rigid and therefore capable of maintaining its shape;
4. It is capable of multiple reclosures with its attached or unattached lid; and,
5. It is normally used to store a product for 7 days or longer and therefore does not include deli trays or fast food packaging.

Below, is the listing of SPI-CRS categories that Cascadia recommends be included – based on the RPPC definition above. Attachment 1 includes all SPI-CRS categories that could possibly include RPPCs, and provides our reasoning for why the category, if omitted, is not included in the recommended list.

Recommended List of SPI-CRS Resin Categories	
SPI-CRS Reporting Category	1995 Tons Sold
PET Bottle Grades	1,001,277
HDPE Pails	365,825
HDPE Tubs and Containers	116,700
HDPE Base Cups	31,199
HDPE Motor Oil Bottles	84,684
HDPE Liquid Food Bottles	589,923
HDPE Household Chemical Bottles	460,353
HDPE Industrial Drums	113,877
HDPE Pharm., Cosmetics, and Toiletries	141,941
PVC Bottles	85,465
LDPE Bottles	21,624
PP Blow Molding Containers	76,940
PS Rigid (Non-Foam) Packaging	322,179
TOTAL	3,411,987

If this list is accepted, the ratio describing the relationship between national resin sales and California generation of RPPCs would be 11.38%, as calculated using the formulas on page 2:

Step 1:

$$\frac{318,300 \text{ tons}}{3,411,987 \text{ tons}} = 9.33\%$$

1996 national resin sales for the same categories listed above would be multiplied by the ratio above to determine 1996 California RPPC generation, as follows.

Step 2:

$$9.33\% \times 1996 \text{ national resin sales for agreed upon list} = 1996 \text{ California RPPC generation}$$

The result of this multiplication constitutes the denominator in the 1996 RPPC recycling rate equation.

Attachment 1: Listing of SPI-CRS Reporting Categories that May Include RPPCs

SPI-CRS Reporting Category		IN/OUT OF LIST	WHY NOT INCLUDED ON LIST
Domestic PET			
	PET Bottle Grades	IN	
	All Other Thermoplastic Polyester	OUT	Reporting instructions include applications like strapping, paperboard coating, monofilament, etc.
HDPE Injection Molding			
	Pails	IN	
	Housewares	OUT	Not a container but products themselves
	Tubs and Containers	IN	
	Drink Cups	OUT	Not normally used to store a product for 7 days or longer
	Crates and Totes	OUT	Not capable of multiple reclosures
	Toys/Novelties/Sporting Goods	OUT	Not a packaging container in which a product is sold.
	Base Cups	IN	
	All Other Injection Molding	OUT	Reporting instructions Include a variety of products such as shopping carts, hard hats, lawn & garden products, flower pots, coolers.
HDPE Blow Molding			
	Motor Oil Bottles	IN	
	Liquid Food Bottles	IN	
	Household Chemical Bottles	IN	
	Industrial Drums	IN	
	Gas Tanks, All Uses	OUT	Not a packaging container in which a product is sold.
	Pharm., Cosmetics, and Toiletries	IN	
	All Other Blow Molding	OUT	Reporting instructions include primarily non-container applications such as auto air ducts and toys such as bats and balls.
PVC Molding			
	Bottles	IN	
	All Other Molding Uses	OUT	Reporting instructions include resins used in flexible molding

SPI-CRS Reporting Category		IN/OUT OF LIST	WHY NOT INCLUDED ON LIST
LDPE Injection Molding			
	Lids	OUT	Not a packaging container in which a product is sold
	Housewares	OUT	Not a packaging container in which a product is sold
	Caps and Closures	OUT	Not a packaging container in which a product is sold
	Toys/Novelties/Sporting Goods	OUT	Not a packaging container in which a product is sold
	Medical	OUT	Not "normally used to store a product for 7 days or longer and therefore does not include deli trays or fast food packaging"
	Containers	OUT	Sales data reported under LDPE Other Injection Molding
	Other Injection Molding	OUT	Reporting instructions include applications such as component parts of appliances and lawn & garden products
LDPE Blow Molding			
	Bottles	IN	
	Other Blow Molding	OUT	Reporting instructions include large gas tanks, toys, novelties and recreational items

SPI-CRS Reporting Category		IN/OUT OF LIST	WHY NOT INCLUDED ON LIST
LLDPE Injection Molding			
	Lids	OUT	Not a packaging container in which a product is sold
	Housewares	OUT	Not a packaging container in which a product is sold
	Caps and Closures	OUT	Not a packaging container in which a product is sold
	Toys/Novelties/Sporting Goods	OUT	Not a packaging container in which a product is sold
	Medical	OUT	Not "normally used to store a product for 7 days or longer and therefore does not include deli trays or fast food packaging"
	Containers	OUT	Sales data reported under LDPE Injection Molding Containers
	Other Injection Molding	OUT	Reporting instructions include applications such as component parts of appliances and lawn & garden products
LLDPE Blow Molding			
	Bottles	OUT	Sales data reported under LDPE Blow Molding Bottles
	Other Blow Molding	OUT	Sales data reported under LDPE Other Blow Molding

SPI-CRS Reporting Category		IN/OUT OF LIST	WHY NOT INCLUDED ON LIST
PP Injection Molding			
	Appliances	OUT	Not a packaging container in which a product is sold
	Consumer Products	OUT	Not a packaging container in which a product is sold
	Rigid Packaging - Cups and Containers	OUT	Reporting instructions include resealable and non-resealable yogurt containers and deli tubs/containers
	Rigid Packaging - Caps and Closures	OUT	Not a packaging container in which a product is sold
	Rigid Packaging - Other Rigid Packaging	OUT	Reporting instructions include video cassette boxes, pallets, and other non-container applications.
	Transportation - Battery Cases	OUT	Not a packaging container in which a product is sold
	Transportation - All Other Transportation	OUT	Not a packaging container in which a product is sold
	All Other Injection Molding	OUT	Reporting instructions include computer and business machines, pipe fittings, and textile cones
PP Blow Molding			
	Containers	IN	
	All Other Blow Molding	OUT	Reporting instructions include ducts, toys, and coolers

SPI-CRS Reporting Category		IN/OUT OF LIST	WHY NOT INCLUDED ON LIST
PS End-Uses: Packaging and One-Time Use			
	Rigid (Non-Foam) Packaging	IN	NOTE: this category includes non-RPPCs, but is included to be generally representative of PS.
	Rigid (Foam) Packaging	OUT	Reporting instructions include primarily non-RPPC applications such as meat trays and fast-food cups.
	Food Service	OUT	Not "normally used to store a product for 7 days or longer and therefore does not include deli trays or fast food packaging"
	Other Packaging	OUT	Reporting instructions include non-RPPC applications such as labels, liners, paper coatings, etc.